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Original Communications.

PARALYSIS IN INFANTS.

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Read before the Boston Society for Medical Observation.

I PROPOSE to give, briefly, a few cases of paralysis occurring in infants, or very young children, with special reference to diagnosis.

The so-called infantile paralysis, or, as it has been called, the essential paralysis of children, is the most common form. Two cases may be enough to show the varieties in its mode of origin and course.

CASE I.—Nannie W., seen Aug. 9, 1870. Aged 1½ years. When born, she was a healthy child; at about ten months of age she had an attack of diarrhœa, lasting three days; once she passed a little blood. She had a slight fever. One night she screamed out, and in the morning was noticed to have lost power over her legs. The right leg regained some power, but not much; it was practically useless; the right heel was slightly drawn up; the toes could be flexed, seemingly by voluntary action. The left leg hung limp and useless. The size of the legs, half way between the knee and ankle, was, right five and a half inches, left five and three eighths inches. Two inches above the knee, both legs were seven inches in circumference. The arms and body were well developed, and there was good use of the arms. The general health was good. The electric reaction is not recorded, and no treatment was adopted.

CASE II.—Geo. D., sent to me from City Hospital, February 23, 1872. Aged 3 years; was naturally rather a bright boy. January 30, he went to bed well; was taken out of the bed during the night, and could not stand. Nothing was thought of this, but the next morning he could not walk. He had no pain until three days later, when there was pain in the left knee; also, to a less degree, in the right knee. The arms were not affected. There was no diarrhœa before the attack; possibly, however, he might have been a little feverish the day before and during the night; the next day, there was no feverishness. The left leg was the one affected; it improved somewhat, so that when I saw him he could sometimes move it a very little. He could creep, moving the hip, but the knee and ankle-joint could not be moved. He could stand on the right leg, not on the

left. At first, the left leg was drawn up, and any attempt to straighten it caused pain. When seen, passive motion of the leg or thigh caused no pain; flexing the foot on the leg seemed to cause pain in the calf. On palpation, there seemed to be pain in the left hip, but scarcely more than in the right. On forcibly and suddenly pressing the thigh against the acetabulum, there seemed to be some discomfort, but not much. The pain did not seem to be acute. He pointed frequently to the left knee as painful, but not to the same spot each time, and sometimes complained of the right side. The left leg was at this time but slightly less in size than the right. No measurements were taken.

The muscles on the anterior aspect of the left leg did not respond to any strength of the faradaic current which I felt justified in using. Those of the right responded well.

The same muscles of the left leg responded to 10 Daniels elements. Those of the right responded only slightly to 16; it required 20 cells to obtain a marked action.

The gastrocnemius on the left contracted under 18 to 20 cells; on the right only with 25 cells.

After two applications of electricity, after nine days, he stood up by a chair, and the next day, in my office, he stood alone unsupported; he could also flex the ankle a very little. Ten days later, after four applications, he walked across the room by putting the right leg forward and then drawing up the left leg.

He continued to gain, the reaction to the galvanic current gradually diminishing, till, on March 29th, the thirteenth application, a painful current was required to move the muscles of the thigh. On May 13th, it is noted that the leg had wasted considerably, and he could run tolerably well. Two days later, the muscles responded slightly to the faradaic current. The foot rotated outwards during walking. The sensitiveness to the induced current increased slowly but steadily; the muscles of the thigh gained most in this respect. He also acquired some power to rotate the foot inwards.

When last seen, he could walk and run well, had most of the motions of the foot; but in walking there was a tendency in the foot to roll over, so that he walked on the inner side. As he could not be brought to me regularly, I advised the use of a support for his ankle, and that he should be exercised in the proper use of the muscles. Twenty-nine applications of electricity were made during nearly six months.

These cases are good examples of this affection. The distinctive symptoms may be enumerated as follows:—A sudden attack of paralysis, preceded by only a slight fever, diarrhœa, or, perhaps, merely a slight dulness or heaviness. Rarely is a convulsion the precursor of this affection. I have never seen such a case, and suspect that when there is more than one convulsive attack there must be other cerebral symptoms, and that it would be found to belong to

the next group of cases. As in the second case, the child may be put to bed seemingly well, and awake paralyzed. The paralysis is worst at first, and chiefly in the legs; the arms may be affected.

There is more or less improvement for a variable length of time; then the paralysis becomes stationary. The reaction of the muscles to the faradaic current is lost early, after a few weeks at latest. It may disappear during the use of electricity as a remedy. The reaction to the galvanic current is almost always increased at first, and is lost only at a much later period. After a few weeks, atrophy sets in, and may make rapid progress; the limb may cease to grow, or grow much less than its fellow. In one patient there was a difference of about three-fourths of an inch in the length of the legs, after four or five years. In others, this difference in length is not so marked. As in the second case, the atrophy may be increasing even while the power of voluntary motion is returning. It would seem that certain muscular fibres are irreparably injured and disappear before others can be formed to take their place. In the second case, voluntary motion returned long before the reaction to the faradaic current was reëstablished.

In the next group of cases, I shall include paralysis of cerebral origin, not hydrocephalic. Between these and infantile paralysis there are characteristic differences, both in the earlier symptoms and in the later stages. They have, however, been confounded, even by Niemeyer and Eulenberg; and many writers, while referring to a distinction between the two, seem not to draw the line of separation very definitely.

Case III.—Mary G., æt. 6½ years, seen first on June 12, 1868. When about a year and a half old she had convulsions, lasting from 3, P.M., to 1, A.M., and recurring occasionally for several weeks. She was dull, and seemingly had some fever. After this, the right side was paralyzed, the hand more than the leg. The right hand became permanently somewhat drawn up, the thumb drawn in, and the arm slightly rigid.

When about 3½ years old, she began to have spasms, which were not much more frequent when I saw her than at first. These attacks are sometimes foreseen by the patient, she screaming out just before they occur; she falls down, sometimes urinates and sometimes laughs. The left side is actively convulsed; the right side is stiff. During the attack, she turns purple in the face; before it, her face flushes, afterwards is pale; sometimes she froths at the mouth, loses consciousness, then becomes sleepy. This is the character of the more severe fits. Lighter ones may consist only in a change of countenance. Has them sometimes at night.

When seen, she limped with the right foot in walking, her right ankle turned over slightly, the toe dragged some. She could not flex the toes of the right foot nor her right ankle fully; she could not flex the right knee so well as the left; she could flex both thighs.

She could raise her right arm only as high as the shoulder, and that with great exertion. It was very difficult for her to shut her right hand; she could not extend it.

The right leg, six and one-half inches above the external malleolus, measured nine and seven-eighths inches in circumference. Four inches above the condyle, the left arm measured seven and five-eighths inches, the right, seven and one-eighth. The fore-arms were alike. The mouth was drawn a little to the right; the tongue generally protruded straight; the sight of the left eye was better than that of the right. The right pupil was sluggish. Hearing was alike on the two sides. Sense of touch was not affected. She learned her letters easily and to spell, but seemed to forget easily. She had certain choraic movements.

All the muscles of the leg responded to the faradaic current, and, after a few applications, gained somewhat. Those of the arm responded, also, but the extensor sublimis, supinator longus and extensores carpi less than the others.

A mixture containing the bromides of potassium and ammonium was given. The epileptic fits were less frequent and less severe while she took the medicine; it was not given regularly, however, and after a few weeks she passed from my notice.

CASE IV.—The next case is that of a girl sent to me by Dr. Minot. P. R., æt. nearly 5 years, a large child at birth, was healthy until 10 months of age; then she had an attack of convulsions. The spasms were light at first; they lasted three days, and during the last nine hours there was loss of consciousness. The left side was paralyzed, and remained so after the cessation of the convulsions. As her strength returned, the paralysis diminished. This attack occurred on a hot day, but it was not known that the child was overheated.

The left side of her face was smaller than the other; both sides moved when she talked, but the left less than the right.

Left arm, over biceps, measured		six and one-fourth	inches.
Right	" " "	seven	"
Left arm, below elbow,	"	five and three-fourths	"
Right	" " "	six and three-eighths	"
Left leg, around calf,	"	eight and one-fourth	"
Right	" " "	eight and three-eighths	"
Left thigh, four inches above knee, measured		ten	"
Right thigh, do. do., measured		ten and five-eighths	"

The left arm could be moved from the shoulder-joint pretty fairly, but not so well backwards as forwards; the elbow could be flexed only about one-half; the forearm could not be rotated; there was no power over the wrist or fingers, but on attempting certain movements there was extension of the fingers. When seen, the fingers were contracted, though during sleep they relaxed, and when she awoke and stretched, both arms moved alike naturally.

She walked well and, at times, naturally, but once in a while gave

a peculiar little hop; she stood on the right foot easily, and held up the left with a little difficulty; she stood on the left for a short time, half a minute or so, and held the right up without difficulty.

The right side of the body was a little larger than the left; the tongue protruded straight, but the left side was rather the smaller. The right pupil contracted less readily than the left. Both eyes converged, following the finger until it was about four inches distant, then the left eye turned to the left. Sensation was equal in the two hands.

The muscles of the left arm responded fairly to the induced current, making allowance for the contraction of the fingers which interfered with their motion. They acted less readily than those of the right arm. To the galvanic current, the extensors on the left forearm responded with two cells less than the right arm. The uninterrupted galvanic current, from the back of the neck to the contracted muscles, caused relaxation.

With faradaic current, the muscles of the left leg acted well with the spinal-cord-nerve current, but less readily with the spinal-cord-muscle current. With galvanic current, it was the same. The extensors of the thigh, also, acted well.

In the summers of 1870 and 1871, she had two series of slight attacks, the last one worse. She stepped on the left foot, turned a little to the left, with a slight puffing and blowing, and looked up to her mother as if she held her breath for a minute. No loss of color was remembered. Going into the hot sun brought on the attacks; there were several a day while they lasted. Change to the sea-shore and bromide of potassium caused them to cease.

She was seen only a few times, and there was no marked change in her condition during the week she remained here.

About the same time that this last patient was seen, I saw another case almost identical with it, except that the paralysis was much less marked, but the epileptic attacks were more severe.

In the three cases, there were convulsions, lasting for several hours, or even days. These were followed by hemiplegia, more or less persistent, with more or less contraction of the paralyzed limbs, and perhaps slight affection of the mind. In one case, the one-sided atrophy was a peculiarly interesting symptom. In the three, epileptic convulsions occurred some years after the origin of the difficulty. In two cases, the reaction of the muscles to the faradaic current was retained, even after years of partial disuse, with considerable atrophy. In the other case, voluntary motion was so nearly perfect that the electric reaction was not tested.

The diagnostic symptoms of infantile paralysis may be briefly stated, for comparison with the above, as:—sudden paralysis after very slight constitutional disturbance—this is worse at first; early change of electric irritability and early wasting without contractions; when vicious postures are taken, they generally occur later, and are due to retraction of still active muscles.

In well-marked cases, where a full history can be obtained, it is not difficult to diagnosticate these two forms of paralysis. Where the history is imperfect, and only the fact of paralysis is known, it may, in some cases, be difficult to form an opinion. In such a case, the presence of contractions and persistence of faradaic contractility, after the paralysis has persisted for any length of time, would be valuable guides.

A few cases occur in which caries of the vertebræ causes paralysis, the history is rather obscure, and the child too young to tell where the suffering is situated. If the child is fat and the back not deformed, a diagnosis may not be easy. The following case may illustrate this.

CASE V.—Lizzie L., seen lately, æt. 15 months; when young, used her legs like other children. Last spring or summer she lost control over them. Her grandmother did not know whether this loss of power came on suddenly or gradually; from what she said, it was more likely that the loss did not appear suddenly. There was no diarrhœa, no fever, no convulsions. During last summer, her health was noticed to be failing, and she was taken to the sea-shore. There she slept much, had loss of appetite, emaciated, no diarrhœa. When held up, she cried. The general health had improved, and when I saw her she was quite fleshy. I found that when lying on her stomach the back was nearly straight, but when she sat up there was slight bulging out of the spine in the upper lumbar region, involving three or four vertebræ. There was no tenderness on pressure. The legs were nearly equal in size, the right perhaps a trifle the smaller. Sensation seemed to be retained, as, on tickling or patting the foot or leg, the leg was withdrawn. There had been a gain in motor power, but she moved her legs spontaneously only occasionally. The reaction to the faradaic current was retained in both legs, and seemed to be in the thighs, though they were so fat it was not easy to test them. A corset support was obtained, and, a month later, there had been very great improvement, though no attempt had been made to walk.

In this case, the diagnosis was made as much by means of the absence of some symptoms as by the presence of others. The deformity of the back was so slight it might easily have been mistaken for the natural rounding of the back when the child sat up; but, in connection with the other symptoms, was valuable as confirming the diagnosis.

In another case, I had an opportunity of watching the gradual development of the paralysis, with many other symptoms, which clearly indicated the nature of the disease; but if the case had not been seen so early, it might not have been possible to have obtained these data from the parents.

(To be concluded.)

Clinical Lecture.

ON DISEASES OF THE THROAT.

By F. I. KNIGHT, M.D. Harv.

THE RHINOSCOPE.

THE term rhinoscope is now usually applied to that instrument by means of which we are enabled to obtain a view of the naso-pharyngeal space. It is unnecessary to speak of the importance of any instrument, which enables us to see parts whose condition may be in question and to treat them locally, if desirable, with precision.

As early as 1743, an attempt at rhinoscopy is said to have been made by Levret, and at different periods, since that time, attempts, more or less successful, have been made by others. It remained, however, for Czermâk, soon after his discovery of the practicability of laryngoscopy, to establish, also, the practicability of rhinoscopy. His title to this latter discovery no one has disputed. In order to practise rhinoscopy, you will require a good illumination of the pharynx and a mirror similar to that used for laryngoscopy, but usually considerably smaller, whose reflecting surface, being held in the pharynx, is to be directed upward and forward, instead of downward and forward. An instrument for depressing the tongue is, also, usually necessary, as well as sometimes an instrument for drawing forward and raising the soft palate. The illumination you can obtain in the same ways as for laryngoscopy. Of the various tongue depressors which have been invented, that of Türck is the best suited to the

majority of cases, inasmuch as, on account of its peculiar shape, it can be made to depress the tongue far below the level of the lower teeth. For raising the soft palate, when this is necessary, this simple, broad palate hook, suggested by Czermâk, is sufficient for examination. In

case of operation, however, you cannot spare one hand to hold this hook, and if the instrument with which you are operating is not of such shape as to raise the palate sufficiently of itself, you can, by means of this small, silver tube, easily slip a noose over the uvula and, drawing it tightly, can then pull forward and upward the soft palate, and attach the other end of the lasso to a band upon the patient's head. Of course, all patients cannot be made to bear such a contriv-

ance as this within a reasonable amount of time, but it is much better borne than you would naturally expect. I had no trouble in using it in the case of a young lady from whom I removed two polypi, which were so situated that I could not well get at them without some contrivance for holding up the soft palate.

To make a rhinoscopic examination, you will proceed as follows: Let the patient sit opposite you, with his head erect instead of being inclined backward, as for laryngoscopy. This latter position has been suggested, however, by Moura, with the object of bringing the posterior nares into a better position for illumination; and an inclination of the head forwards, has been suggested by Voltolini, so that the uvula and soft palate should hang a little forward from their natural position. But, on the whole, an erect position of the head seems to me to be the most desirable. You then secure a proper illumination of the pharynx in one of the methods described to you in my remarks on laryngoscopy.

If both hands are to be used, however, it is well to have the light, if artificial, put a little higher than usual, so that your left hand may not cut off any of the rays. You then warn the patient, as before, that you are not going to hurt him and request him to breathe regularly, and to try not to swallow or gag. You then request him to open his mouth as widely as possible, and placing the spatula, held in your left hand, well back upon the tongue, you depress it sufficiently to give you room for illumination and a proper position of your mirror. If the tongue spatula is put upon the tongue too far forward, the base of the tongue will very likely rise up as a serious obstacle to your examination. If, on the contrary, it is put too far back, it is likely to produce gagging at once.

The tongue having been properly depressed, however, you warm your little mirror (the one which I usually use is about five-eighths of an inch in diameter), and introduce it, with your right hand, with its reflecting surface upward, under the arch between the uvula and soft palate; then, by moving it about and inclining it at different angles under both arches and under the uvula, you will see, in turn, the images of more or less of the parts, which go to make up the naso-pharyngeal space. It is often difficult to get a thoroughly satisfactory view of the posterior nares without raising the soft palate, and this is particularly true of the lower part of them. It is best, however, to try, in the first place, to see all you can with as little irritation of the throat as possible, because, by a little extra amount of irritation of the fauces, you may deprive yourself of the opportunity of getting even an imperfect sight of the nares at that visit. If the soft palate shows a tendency to constantly rise up and apply itself against the pharynx, you will direct your patient to try to breathe through the nose, and if this does not succeed in bringing it down, you may try the suggestion of Czermâk, to cause the patient to try to emit some nasal sound, the French "en" being suggested by him. When, however, you have seen all you can with the tongue depressor and mirror alone, you transfer the tongue depressor from your own hand to the right hand of the patient, with directions for him to keep the tongue well depressed and the instrument in the angle of the mouth on the right side. You then, having warmed the palate hook, pass it gently under the soft palate, with the left hand, gently raise it up-

ward and forward, and hold it steadily by resting your hand upon the patient's face. You then proceed, with the mirror in the right hand as before. If there is a resistance to the introduction of the hook on the part of the soft palate, causing the patient to breathe through the nose or to emit a nasal sound may overcome this. On the occurrence of gagging, the instrument must be immediately withdrawn.

The parts of which you will obtain an image by varying the position of the rhinoscopic mirror, after its introduction, are the following:—the nasal septum, narrow and of a pale yellowish color below, broader and redder above; on either side of this, the posterior openings of the nares; and at the lower part of the latter, the ends of the inferior turbinated bones; at their sides, directed inward and downward, the middle turbinated bones; and, above, usually a little of the superior turbinated bones; below the openings of the nares, is seen the image of the posterior surface of the soft palate; farther out on each side, is seen a yellowish triangle, bounded, as it appears in the image, below and above by very prominent swellings, at the external angle of which the pharyngeal opening of the Eustachian tube is situated; the depression running upward and outward above the swelling over the Eustachian tube is the fossa of Rosenmüller, into which the Eustachian catheter has been sometimes passed by mistake; in the upper part of the picture, we see the vault of the pharynx, which is the seat of a bunch of glands which are often seen to be enlarged; and contiguous to this are the posterior and lateral walls of the pharynx.

The color of the various parts is:—of the lower part of the septum, as we have before said, and of the triangular spaces about the openings of the Eustachian tubes, pale yellowish, sometimes reddish yellow; of the turbinated bones, greyish, so that they resemble polypi, and when enlarged, have even been operated upon as such; the other parts are red.

The obstacles to a successful examination of the naso-pharyngeal space are as follows:—

1. General irritability of the fauces, which must be overcome in the same manner, as directed for laryngoscopic examination.

2. A peculiar involuntary resistance of the tongue, when an attempt is made to depress it with a spatula, which is overcome by employing firm and steady pressure upon it.

3. A drawing up of the uvula against the pharynx during respiration, which is sometimes voluntary in patients who have been in the habit of exhibiting their throats without any depression of the tongue. This can usually be brought down by requesting the patient to breathe through the nose, or to emit a nasal sound, and they must try to learn to let it hang away from the pharynx.

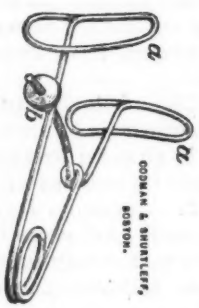
4. Enlarged tonsils and elongated uvula. It may be necessary to remove the former, but the latter can be held out of the way by the palate hook.

5. Want of space between the soft palate and the posterior wall of the pharynx, in some cases little space existing naturally, in some it being much diminished by inflammatory swellings, &c., and in others adhesions existing between the palate and pharynx.

Let me say a word here in regard to the examination of the nares anteriorly, which Dr. Cohen suggests may be called anterior rhinoscopy, as the examination of the naso-pharyngeal space is posterior

rhinoscopy. You will see among practitioners a great neglect of the proper illumination of the anterior nares, in the examination particularly of cases of polypus, the diagnosis and treatment of which are so much facilitated by a good view. Oftentimes, the attachment of a polypus can be seen and a snare or very slender forceps may be used, seizing only the pedicle, instead of the ordinary clumsy forceps, which cause so much pain. Many of you have seen a case recently in this clinic, which illustrated the necessity of a proper examination of the nares. Those of you who were here at her first visit will remember that she stated that she had been removing for several weeks previously large masses of dried bloody matter from her nose by means of a hair pin; and that those physicians to whom she had applied regarding it, did not examine inside the nostrils. You will remember that; on examination by means of a nasal dilator and reflected light, we found a large perforation of the septum, filled up to a considerable extent by a large mass of dried blood and purulent matter, which extended more or less into either nostril and thereby seriously impeded respiration. On removing this, we found a raw ulcerating edge about the perforation. A few days' treatment relieved all discomfort and put her on the road to a rapid and complete recovery.

You can oftentimes examine the nares anteriorly with satisfactory result by employing direct sunlight, the patient being seated facing the sun, with his head thrown back and the point of the nose pushed up and the nostril dilated. But you can usually examine more conveniently and thoroughly with the aid of a reflector, still using sunlight if you can get it.



For dilating the nostrils, the old-fashioned, two-bladed aural speculum does very well, but this instrument, devised by Dr. Norton Folsom, and described by him in the *New York Medical Gazette*, I like much better, if the patient can bear the pressure of the spring, which he usually can do. It is similar to Thudichum's nasal dilator, but is lighter, and is provided with a screw, by means of which the extent of dilatation can be regulated. It is compressed, and then introduced and allowed to expand.

Voltolini at one time proposed introducing a bright rod and illuminating the passage by reflections from this.

But this method has never been much employed, so far as I know, and Voltolini himself anticipated serious objections to it from constriction of the nares, deviation of the septum, &c. By illuminating the anterior nares properly, we may see a part of the *middle* and the anterior end of the *inferior* turbinated bones, and a part of the septum and floor of the passage. In exceptional cases, even the posterior wall of the pharynx may be seen.

In reply to the question which might naturally be asked by you, "Of what practical use will posterior rhinoscopy be to us?" I will answer, briefly, that it will enable you to catheterize the Eustachian tube, diagnosticate and treat neoplasms, inflammation and its sequences, ulcerations, hypertrophies and indurations occurring in the nasopharyngeal space, with a precision wholly unattainable without it. In

conclusion, I will call your attention to this excellect preparation of the skull and throat, one which is seldom seen, showing the relations of the larynx, pharynx and posterior nares to each other. A glance at the naso-pharyngeal space will show you, perhaps, that the mirror has given you an entirely erroneous impression of the relation of parts to each other; but in the nature of things this can in no way be avoided. A cross-section, also, in front, shows you the turbinated bones anteriorly.

If the image as seen in the mirror is hard to interpret properly, so much the more difficult is it to produce a picture which shall convey a proper idea of the relations of parts. The painting of Heitzmann, which you see hanging opposite that of the larynx, is a very good representation of the rhinoscopic image, the coloring, even, being quite true to nature.

Progress in Medicine.

REPORT ON OTOLOGY.*

By J. Orne Green, M.D.

Anatomy and Physiology.

Ruedinger.—Beiträge zur Histologie des Mittleren Ohres. München. 1873.

Burnett.—Bloodvessels of the Membrana Tympani. Amer. Jour. Med. Sciences. Jan., 1873.

Zuckerkandl.—Ueber die Arteria Stapedia des Menschen. Monatschrift für Ohrenheilkunde. Jan., 1873.

Weber, F. E.—Der Musculus Tensor Tympani. Idem. Oct., 1872.

Mack.—Zur Theorie des Gehörorgans. Prag. 1872.

Lucæ.—Zur Diagnostichen Verwerthung der Schalleitung durch die Kopfknochen. Berliner Klin. Wochenschrift. 1871.

Lucæ.—Maximal Phonometer. Idem. 1872.

Berthold.—Taube Puncte des Ohres. Idem. 1872.

The histology of the middle ear has been made the subject of minute study by Rüdinger for a long time, and the observations of so accomplished an anatomist are worthy of more extended notice than is here possible. But a few of his observations, more especially on some of the points of controversy which have arisen of late years, can be mentioned in this paper.

The surface of the ossicula consists of general lamellæ, which enclose bone-corpuscles throughout, and, in their deeper layers, also, groups of so-called giant cells. The canals of Havers resemble those in the short bones of the extremities and unite in a large central cavity, the medullary cavity. Specimens of osteophorosis and of osteosclerosis were also found. The cartilaginous layer over the hammer, which was first described by Gruber as a distinct tissue, and one which played an important rôle in the movements of that bone, but which has been considered by Prussak and others as merely belonging to the periosteum, Rüdinger allows to be distinct from the hammer, but describes it somewhat differently from Gruber. At the lower end of the manubrium, the layers covering the hammer are a fibrous tissue containing

* Second semi-annual Report.

cartilage cells, which he calls fibrous cartilage; within this, and closely surrounding the whole hammer, is a layer of pure hyaline cartilage, the boundary between the two forms of cartilage being very distinct. This hyaline cartilage, Rüdinger acknowledges, may be the remains of the fœtal cartilaginous hammer, but, as Gruber says, it persists through life. The resemblance of these cartilaginous layers on the hammer to the cartilages seen in the joints of the ossicula, lead Rüdinger to think that they are special histological media for the transmission of sound-waves. The cartilaginous layers are still found the same, but varying a little in thickness as we pass up the hammer, but that bone itself is more and more isolated from the membrana tympani. As we approach the short process, the layer of hyaline cartilage becomes gradually thicker on the external edge of the hammer, and thinner on the other surfaces, till, at the point of the short process, it has entirely disappeared, except externally, where it forms a thick bolster closely attached to the bone. The space between this cartilaginous bolster and the short process, which Gruber describes, could not be found by Rüdinger, but on each side of the cartilage is an angle, filled in with connective tissue, in which spaces exist, the walls of which are of variable thickness. These spaces he considers to be vessels and not a discontinuity between the cartilage and the membrana tympani.

The pouches of the membrana tympani, described by Troeltsch as duplicatures of the membrana propria, but by Gruber and Henle as simply folds of the mucous membrane, Rüdinger says contain a strong layer of parallel fibres, resembling the radial fibres of the membrane, and serve as ligaments to hold the hammer, on which account he has named them the pouch-ligaments of the membrana tympani. The other ligaments he has described nearly as given by other authors.

The ring in which the membrana tympani is inserted, called by older writers the annulus cartilagineus, contains, in the human being, no cartilage, but is composed of fibrous tissue, a continuation of the periosteum, and, therefore, named by Rüdinger the annulus fibrosus.

After careful study of the articulations of the ossicula, Rüdinger reasserts what he has already published (*Virchow's Archiv*, 1860). Both in the articulation between the malleus and incus, the incus and processus lenticularis and the processus lenticularis and stapes, a freely movable meniscus of cartilage is found, thus making a joint of two chambers as is found at the clavicle. The tendon of the stapedius muscle is attached not only to the stapes but also to the capsule of the joint and the processus lenticularis.

By means of preparations colored with chloride of gold, Burnett has studied the arrangement of the bloodvessels and nerves of the membrana tympani in different animals, and finds that they vary somewhat from the arrangement found in the human membrane. In the dog, cat, goat and rabbit, small vessels pass from the periphery towards the manubrium, and, also, from the manubrium towards the periphery, at nearly equal distances from each other; and then turn abruptly towards their starting point, thus forming a series of vascular loops. In the Guinea-pig, however, the vessels form a net-work of coarse quadrangular or pentagonal meshes, an arrangement similar to that in man, except that the meshes are coarser and the vessels finer. These arrangements of the vessels Burnett has found constant and peculiar to these animals.

The arteria stapedia, generally described as abnormal, Zuckerkandi affirms to be constant, taking its origin from the arteria stylo-mastoidea which enters the tympanum above the foramen ovale. It gives off a branch to each arm of the stapes and one to the base of that bone, and anastomoses with a branch of the arteria nerv. tympani comitans, or else with the arterial plexus of the promontory.

The tensor tympani muscle is surrounded throughout its entire course by a fibrous sheath, arising from the roof of the tubal cartilage and from the edge of the fibro-cartilago basilaris and passing along the entire muscle. The tympanic sheath of the muscle which has been considered to be mucous membrane, Weber has found to be fibrous tissue, a continuation of the sheath covering the muscle within the osseous canal. The muscle itself takes its origin only from the posterior cartilage of the Eustachian tube and three bundles of fibres, an outer, middle and inner, arise from this tissue to form the muscle. The length of the tendon of the muscle, from the rostrum cochleare to its insertion on the hammer, Weber gives at two and one-fourth millimetres, and its direction somewhat forwards and downwards. Its insertion on the hammer is three and three-fourths millimetres above the end of the manubrium, and four and one-half millimetres below the top of the hammer.

Mach agrees with Helmholtz that the conduction of sound to the labyrinth-water takes place by vibrations of the ossicula as solid bodies, and not by vibration of the separate molecules composing them; and also with the theory of Seebach in regard to the manner in which the tympanic apparatus is enabled to conduct oscillations of various durations equally well. He then considers the question of how the arrangement of the tympanic apparatus in separate masses, each of which possesses special elastic power, must act, and by calculation concludes that this arrangement must increase or diminish the tones according to the condition of these masses. The tympanic apparatus, then, does not conduct all tones equally well, but rather always favors some particular part of the scale of notes, the part favored, however, depending on the tension of the tensor tympani muscle. In addition to the accommodative function of the tensor tympani muscle in varying the tension of the membrana tympani, Mach would thus assign to this muscle the ability to change the conducting power of the whole tympanic apparatus.

In explanation of the established fact that, when a vibrating tuning-fork is placed against the bones of the skull and one ear is tightly closed, the fundamental tone of the fork will be heard louder in the closed than in the open ear, Mach had advanced the theory that a certain amount of the sound which generally passed out of the meatus and was lost to our perception was, by the closure of the meatus, reflected back on to the labyrinth, and thus produced a greater impression on the closed than on the open ear. This idea was based on the theory of Duhamel that the force of a sound is always measured by the difference between the influx and efflux, and must vary whenever the influx or efflux is disturbed. Lucæ, however, considers himself justified, from experiments, in denying any such efflux of the sound, and affirms, moreover, that the reinforcement of the tone is entirely dependent on the length of the column of air in the closed ear, i.e. on the proportion existing between the length of the air-column and the length of the waves of the

tone employed. If the tone c′ is used and the length of the meatus is increased by the insertion of a rubber tube eleven inches long, thus making the column of air one-fourth the length of the sound-wave, the fundamental tone is deadened and its octave is heard distinctly; if the column of air is increased to twenty-four inches, the fundamental tone is again reinforced, since the course of the reflected waves is equal to the whole length of a wave of the tone c′.

Other observations of Lucæ on the influence which the direction of the vibrations in the bones of the skull exert on the amplitude of the vibrations of the membrana tympani show that the vibrations of the membrane are greatest when the waves of sound strike perpendicularly to the plane of the membrane. This fact can be demonstrated by closing both ear-passages and placing a deep tuning-fork on the centre of the head; the tone will then be perceived equally strong in each ear. If the fork is now moved to one side, to a point perpendicular to the plane of the opposite membrane of the drum, the tone will be heard strongly and almost entirely in that ear.

Lucæ has constructed an instrument for the purpose of measuring exactly the pressure of the breath exerted in speaking, i.e. the intensity of the speech. It consists of a paste-board cylinder, 190 millimetres long and 48 millimetres in diameter, one end of which is funnel-shaped, and covered at the edge with a roller of rubber so that it can be applied tightly over the mouth. The other end is closed by a membrane of rubber, so stretched that the slightest compression of the air in the tube will move it. On the edge of the tube a light metallic lever is attached, the lower end resting on the centre of the rubber membrane, and the upper end moving over a quadrant marked in degrees and attached to the body of the instrument. Any word then spoken into the tube presses the rubber membrane, and with it the lower end of the lever, outwards, while the upper end of the lever is pressed in the opposite direction over the quadrant on which the extent of its motion can be measured. A very light spiral-spring presses the lever against the quadrant so that it remains at the point of maximum motion. The instrument has the practical value of determining empirically the intensity of one and the same spoken word, and, therefore, gives a more exact test of the hearing for language than was before possible.

In regard to the alphabet, it is found that the maximal intensity is greatest for the explosives B, G, D, P, K, T (18°–38°); least for the letters S, W, C, Z, I, L, F, V and R (2°–12°), while the vowels have a value of 9°–15°, and Sch, X and H a value of 14°–19°.

These values are not, however, proportional to the ease with which the letter is perceived by the ear, with the exception of the letters P, T, B, I, for the instrument can merely measure the pressure of the air used in forming a letter, while certain letters, especially the vowels, and the consonants F, Sch, Ch and S before a vowel, are increased in intensity by the resonance of the cavity of the mouth without a great pressure of air, consequently their intensity is greater for the ear than for the phonometer.

Pathology.

Lucæ.—Die so-genannten Corpora Amylacea. Virchow's Arch. 1872.

Fuerstner.—Othæmatoma. Archiv für Psychiatrie, iii.

Buck.—Unusual Cases. New York Medical Record, Dec., 1872.

Wendt.—Ueber das Verhalten des Gehörorgans bei Variola. Archiv der Heilkunde, 1872.

Lucæ re-asserts that the so-called corpora amylacea of the membranous semi-circular canals are a pathological formation peculiar to the adult human being. He has never found them in the new-born child, but considers them to be produced either by local disturbances or general disease. He has found them in gray degeneration of the spinal cord, typhus and typhoid fever, tumor of the brain, tuberculosis, Bright's disease, chronic ulcer of the stomach, and also in cases where there was a disease of the ear at time of death, as, for instance, otitis media.

Rüdinger, on the contrary, asserts that he has always been able to find them, at least partially developed, in man, and that, therefore, they are natural structures; their reaction with iodine is the same, he says, as that shown by the tunica propria and other tissues in which no starch exists. He considers them papillary prominences on the inner surface of the tunica propria of the membranous canal, their function possibly being to supply a large secreting surface.

In order to determine the cause of othæmatoma, Fürstner has examined the auricles taken from one hundred and thirty individuals of all ages, without reference to the cause of death, and arrived at the following conclusions. In opposition to the conclusions of other investigators, he asserts that the cartilage itself contains no vessels, but that conical projections of perichondrium, with their vessels, run into its substance. Often in early life, and always in old age, the cartilage of the auricle undergoes the same changes which have been observed in other cartilages, namely, a softening consisting of three stages—the hyaline metamorphosis, the fibrillary and granular destruction, and, finally, the liquefaction of the cartilage, with the formation of cavities. The cavities so formed contain fluid, reacting like mucin, and frequently occupy the whole thickness of the cartilage, presenting the appearance of a line of fracture; the absence of pigment and hæmatoidin crystals proves, however, that no fracture has taken place. Other changes in the cartilage of the auricle consist of new-formations; enchondroses, in which, by a retrograde metamorphosis, cavities are formed, or calcification or ossification may take place; and enchondromæ, which Fürstner found to be rare.

Othæmatoma he regards as always of traumatic origin, favored, perhaps, by some of these chronic changes in the cartilage; the possibility of their spontaneous development from some peculiarity of the vessels, he absolutely denies. One preparation of an othæmatoma showed distinctly the results of an injury, together with the preceding chronic process of degeneration. If, as has been so often asserted, this disease is much more frequent in the insane than in healthy persons, Fürstner would assign as the reason the greater liability of such persons to injury.

An unusual malformation of the hammer is described by Buck, the tip of the manubrium being bent forwards upon itself in the plane of the membrana tympani, so as to form a regular hook.

In an exhaustive article of 100 pages, Wendt gives the results of his dissections of one hundred and sixty-eight ears taken from persons who died of variola, vera and hæmorrhagica. The investigations were undertaken with the view of determining (1) the results of the disease on the ear, and in how far the ear-disease was the cause of other diseases; (2) the existence of the more minute tissue changes; (3) the anatomical cause of the functional disturbances observed during life; (4) to compare the appearances during life with the results of the dissection.

Heretofore, the difficulty of removing all the parts without disfiguring the body has been a serious obstacle, but Wendt proposes a new and simple method. After opening the head, a broad chisel is driven perpendicularly downwards, a short distance in front of the anterior edge of the body of the sphenoid (one and a half centimetres in front of a line drawn from the outer ends of the lesser wings). In this opening a narrow saw is inserted, and worked perpendicularly in a convex line through the lesser and greater sphenoid wings, the horizontal part of the temporal bone close to the vertical portion, then obliquely through the posterior part of the mastoid, and, finally, through the posterior end of the crista ossis petrosi. The remaining parts, to the anterior edge of the foramen magnum, are then broken through with a chisel, and the whole separated by the knife. The whole ear, with the entire Eustachian tube, is thus removed and the naso-pharyngeal cavity exposed.

The pathological changes found were some of them identical with the variolous disease, or closely related to it, while others were such as are found with other general or local diseases. Pustules were seen frequently on the auricle, occasionally in the cartilaginous, but never in the osseous meatus, while hyperæmia and swelling of the corium, serous infiltration of the epithelium, with swelling of the reté Malpighii, were not infrequent in the osseous portion of the passage. The same changes were found in the orifice and lower portion of the Eustachian tube which were seen in the nasal cavity, hyperæmia, hæmorrhage, diffuse swelling, with deposition of pus corpuscles, either between the epithelial cells or in distinct collections and ulcerations, only extending, however, through the epithelium. Purulent infiltration, with some thickening of the epithelium, was occasionally found in the middle ear.

The other changes, which are not of a specific character, but such as are found in many diseases, were, hyperæmia, diffuse and circumscribed hæmorrhage, swelling and abnormal secretion of the mucous membrane lining the middle ear. In the few cases in which the labyrinth was examined, marked hyperæmia was found in those cases where there was a general hyperæmia of the brain.

From the cases examined, both before and after death, Wendt concludes that hyperæmia of the mucous membrane of the middle ear has little or no influence on the hearing. The interference with the hearing-power from secretion in the tympanic cavity is variable, but not extreme, depending on the consistence of the fluid; the swelling of the mucous membrane, however, from diminishing the normal mobility of the conducting apparatus, and from causing abnormal connections between its parts, may interfere very seriously with the functions of the ear, and the retrogressive metamorphoses of this swelling may result in a permanent diminution of the vibratory power of these parts.

The variolous processes proper, Wendt considers, heal without injurious effect on the ear, as he has never found stricture, contraction or obliteration in the tube as the result of that process. The other pathological processes, however, which are not characteristic of variola, may produce the same changes as result from catarrhal inflammations in many general diseases, and one of the most interesting results of his observations is the minute and accurate description of the condition of each part of the ear in these catarrhal inflammations.

(To be concluded.)

Bibliographical Notices.

Dental Caries and its Causes. An Investigation into the Influence of Fungi in the Destruction of the Teeth. By Drs. Leber and Rottenstein. Translated by Thomas H. Chandler, D.M.D., Prof. of Mechanical Dentistry in the Dental School of Harvard University. With Illustrations. Philadelphia: Lindsay & Blakiston. 1873. Pp. 103.

As the authors state in their preface, this is not a monograph, but merely the detailed statement of the results of their special investigations, together with brief considerations of the views of other observers, so far as they are suggested by the subject matter. A brief résumé is given of the principal hypotheses which have been advanced, from time to time, to explain the origin, progress and nature of dental caries, chiefly the so-called chemical, vital and parasitic theories, and their various combinations.

In regard to the much-discussed subject of central caries, they remark: "Although, in most cases, the caries called central is so only in appearance, there are cases, very rare, it is true, where the destructive process has commenced in the dental pulp itself."

They confirm the prevalent view that caries is the result of the action of an acid upon the dental tissues, but differ from many in their interpretation of the phenomena presented by the disease. The idea of the protective power of the so-called "enamel cuticle" is shown to be untenable.

True caries extends from the exterior to the interior of the tooth, involving, primarily, the enamel or cement and subsequently the dentine. While they do not deny the possibility of a vital reaction on the part of the dentine against the carious process, they show that the arguments of Tomes, Neumann, Hertz and others are untenable. These are refuted by proving that artificially inserted human teeth, which have become carious within the mouth, and carious teeth, made of hippopotamus ivory, display the same microscopical appearances which were regarded by the above authors as evidence of a vital process in the dentine.

Admitting the agency of acids in the production of caries, the main object of the work is to show that a fungus, *leptothrix buccalis*, also, takes an *active* part in the process, a conclusion which has not been confirmed by later writers (vide Wedl's Pathology of the Teeth). They found that the fungus cannot penetrate enamel of normal consistency, and were unable to decide if it can penetrate sound dentine, accidentally denuded. When, however, these tissues have become less resistant, through the action of acids, then the elements of the fungus, they say, are enabled to penetrate them and to produce, by proliferation, especially in dentine, the effects of softening and destruction much more rapidly than would be the result of the action of acids alone. In the early stage of the process, when the surface of the tooth is still polished and intact, they were never able to prove the presence of the fungus; so that they concluded that at this period of the disease, constituting the so-called "dry caries," the effects are due solely to the action of acids. Their results were obtained by the application of a test, in the form of iodine and acids, whereby a beautiful violet color is produced.

In regard to the acid agents in the production of the disease, the authors ascribe the principal influence to the products of acetous fermentation of particles of food within the mouth. These acids, they say, act with much greater energy than those formed transiently by the alimentary débris, or by other substances introduced into the mouth. Admitting the fact that our knowledge is not yet sufficient to enable us to determine the exact nature of the acid or acids formed in the mouth, the authors express an opinion, coinciding with that of Oehl, in favor of lactic acid, the requisite conditions for the formation of this being fulfilled in the buccal cavity. While they do not attribute much value to the presence of Pasteur's lactic-acid ferment, or others, they state that if fungi take any part in the acid fermentation within the oral cavity, a point which remains to be proved, they are inclined to attribute it to leptothrix.

Quantitative and qualitative anomalies in the structure of the teeth, which may be combined or occur separately, are considered with reference to the fact that they favor the occurrence and promote the progress of caries.

In concluding, brief observations are made upon the subject of therapeusis. The objects to be attained are considered under the head of prophylaxis and filling. The former comprises measures which serve to neutralize the acids, when formed in the mouth, and to prevent fermentation and the development of fungi by a proper care for cleanliness. By means of filling, the penetration of air and liquids is hindered, and, consequently, fermentation and the development of fungi are rendered impossible.

The translation is an excellent one, and the more deserving of credit, as it is a "labor of love." A few well selected and admirable illustrations add considerably to the value of the book, which, in its general appearance, is very creditable to the publishers.

Now that dentistry is assuming a prominent position in medical science, it is hoped that the literature, in subjects appertaining to it, will rapidly be increased, if necessary, by judicious translations of foreign works such as the one we have considered. W. E. B.

Second Annual Report of the Dispensary for Skin Diseases of Philadelphia. Philadelphia: King and Baird. 1873. Pp. 15.

At this institution, the first in the country established for the treatment of skin diseases under the direction of an exclusivist in this branch of medicine, there had been treated, at the end of the first year, 425 patients. [A similar institution in New York records for its first year 313 patients, the Boston Dispensary for Skin Diseases, 823.] During the second year, 401 new patients have been treated.

Dr. Duhring, the very able physician in charge, says, justly, that, "to be a success, the institution must have acquired reputation and the confidence of the public, points rarely gained without a due amount of work, perseverance and time." He then alludes to the necessity for something more than dispensary treatment in many cases, and to the great need of a hospital devoted exclusively to these cases, and adds what is painfully true in Boston also, viz.: "Singular as the statement may seem, there is not a ward or bed among all the hospitals of Philadelphia (excepting the Almshouse) devoted to the treatment of skin disease—in fact, no institution where a poor man may apply and be sure of admission."

Of the whole number treated, 196 were males, 205 females; adults 336, children 65. Patients of American birth preponderated. Twenty-three different occupations are reported, besides "miscellaneous." The number of diseases observed in 1871 was 39; in 1872, 38. The diseases recorded do not vary in their nature from those observed in Boston, except that affections of the sebaceous glands seem to be more prevalent here than in Philadelphia. Medicines have often been bestowed gratis. Patients have, as a rule, been regular in attendance. The dispensary has also served as a school for both physicians and students.

The pamphlet contains, also, the By-laws, the names of officers and contributors, the Secretary's report and that of the Treasurer, which latter shows the monetary condition of the dispensary to be everything which could be desired.

The institution has our best wishes for and expectation of a continued and ever increasing success, which it will be sure not to lack under such directors as it possesses at present. E. W., JR.

BOOKS AND PAMPHLETS RECEIVED.

Family Thermometry; a Manual of Thermometry for Mothers, Nurses, Hospitals, &c., and all who have charge of the Sick and of the Young. By EDWARD SEGUIN, M.D. New York: G. P. Putnam & Sons. 1873. Pp. 72. (From the publishers.)

Leitfaden bei der Microskopischen Untersuchung Thierischer Gewebe. (A Guide for Microscopical Examination of Animal Tissues.) Von Dr. SIGMUND EXNER, Privat-Docenten für Physiologie und Assistenten am Physiologischen Institute zu Wien. Leipzig: Wilhelm Engelmann. 1873. Pp. 93.

Florida and South Carolina as Health Resorts. By WM. W. MORLAND, M.D. Harv. Boston: James Campbell. 1873. Pp. 20. (From the author.)

The Treatment of Whooping Cough with Quinine. By B. F. DAWSON, M.D. Pp. 14.

Biennial Report of the Officers of the Vermont Asylum for the Insane for the two years ending Aug. 1st, 1872. Pp. 14.

Contribution to the Diagnosis of Cancerous Diathesis—Carcinosi. By WM. B. NEFTEL, M.D. New York. Pp. 5.

STRUCTURE OF THE SCALP OF THE NEGRO.—In a paper read before the Microscopical Society, Mr. Charles Stewart gives the result of his investigation upon the appearance presented by section of the scalp of the negro. Besides the dark color, which is due to the extra pigmentation of the deep layer of the epidermis, there are certain peculiarities that have not received general attention. The scalp is altogether thinner, and the hairs and follicles present the following differences from those of the European. In the first place, the portion of the hair and follicle imbedded in the skin is much longer, and is also remarkably curved, so that it commonly describes a half-circle. The papilla at the base of the follicle, consequently, either lies horizontally or even becomes directed obliquely inwards towards the subjacent bone. Lastly, the sebaceous gland is somewhat smaller.—*Lancet, Feb.* 15, 1873.

Boston Medical and Surgical Journal.

Boston: Thursday, April 3, 1873.

It was shown in a recent editorial that the contempt into which medical expert evidence has fallen is the fault, not of the profession, but of the community, the trouble arising by the putting of the ignorant and disreputable on a footing of equality with the best. Our attention is now called to a glaring abuse of a very different nature, but flourishing by similar causes. A book has lately appeared which treats in a popular and quackish manner, of generation, conception, the diseases of the generative organs, &c., but which differs from most others of the same class in being handsomely bound and printed, written in good English, and in expressing correct views on some points. These very merits, joined to a canting style, make it dangerous to the young, whose imagination it excites, and who are unable to detect its fallacies, though it is absolutely beneath criticism. It is a wolf in sheep's clothing. But it is not of the book nor of its author that we write, but of non-professional persons, many in respectable, some in prominent positions, who do not blush to recommend it. There are, at the beginning of the book, ten pages devoted to "puffs" from journals of all kinds (except medical, we are happy to say) and from letters, all of which, it is stated, are entirely unsolicited. Among the authors of these letters we find a well-known clergyman, of New York, who, though not giving his "unqualified praise," states that "the substance of the book is excellent, its purpose high, its counsel noble, its spirit earnest, humane and pure," and trusts "that it will have a very wide circulation." A prominent writer calls it a "brave book." The principal of a school has "more than read it," he has "studied . . . . . feasted upon it." "A wife and mother" and a female physician (?) write to assure the author that there is no doubt, whatever, about the blessings in store for him. A superintendent of schools expresses his admiration, and adds his good wishes.

Among the journals, a spiritualistic one is, of course, radiant; one in the "woman cause" is gushing, as might be expected; a religious one considers "the method and execution of the work quite unexceptionable." Other papers, of which more sense might be expected, praise it with more or less indiscretion. One has discovered that in it "the influence of Christianity is recognized, and made the basis of the reforms advocated;" another thinks its style "chaste and elegant," while a third calls it "a plain but chaste book," and so on "*usque ad*

nauseam." The country teems with men and women, many, unfortunately, in positions of trust, who do not hesitate to decide dogmatically on difficult questions of which they know nothing. The sum of all the opinions given is not worth the scrap of paper upon which the shortest of them is printed. We do not blame these people for their ignorance, but for their presumption, and would ask them if they have ever weighed the terrible responsibility they take upon themselves, or have sought advice from those capable of giving it to guide their thoughts upon such subjects. Particularly guilty are those in charge of parishes or schools who dare to send out this and similar books (whose name is legion) broadcast, with their endorsement, among those for whom they are accountable. We leave this painful subject with disgust and with discouragement, for the danger is great; but where are we to look for safety when public opinion is made by the ignorant in the interests of the corrupt?

QUARANTINE.—The *Med. Times and Gazette*, Feb. 15, 1873, in an article on this subject, states that the difficulties of enforcing a rigorous quarantine have increased and are increasing. The chief enemies that we have sought of late years to keep at bay by this means are cholera and yellow fever. Heretofore, the plan pursued has been to board suspicious ships, and to detain those persons in whom the disease prevailed.

It claims that nothing can be more clearly shown than that under ordinary circumstances, cholera tends to follow trade routes and other highways of human intercourse; e. g., that in India it follows the crowds from holy fairs. For some years, it has prevailed in Russia more or less constantly, and all this winter it has been smouldering in Hungary and Galicia.

Now what, it is asked, with rapid steamboat and railway travelling, is to prevent the introduction of the seeds of disorder among the English? An infected man makes his way to Ostend and thence passes over to Dover, or comes to London. There may be no cholera in Belgium, or near it; but even supposing there was, how, without almost arresting intercourse, could any useful quarantine be instituted in such a case?

It is stated that if, as far as cholera is concerned, the prospects are not altogether reassuring, yet the dangers regarding yellow fever are not similar, in England, owing to the distance any vessel has ordinarily to travel, in passing from the ports where yellow fever generally prevails to the English. Reference is made to a paper recently presented to the U. S. Senate, which claims that due inquiry establishes the possibility of restricting the spread of yellow fever by an efficient quarantine. Various outbreaks of yellow fever are mentioned, and the immunity from the disease of cities where a strict quarantine has been established at such times are cited.

The paper concludes as follows: "Is there any possibility of providing an efficient quarantine against cholera? We fear not; but at all events, every precaution should be taken to provide against its

introduction when fully developed. We may not be quite in the position to treat a case of cholera altogether satisfactorily, but it seems feasible to prevent its introduction and to check its spread; nay, we question if it is beyond our powers to quench an outbreak. But prevention is better than cure."

Laws of Eruptive and Contagious Diseases.—We quote the following from the *Medical Times and Gazette* of February 22d. It is taken from a notice of M. Besnier's quarterly report of the prevalent diseases of Paris.

"Nothing is more remarkable than the extraordinary diminution in the number of these during the quarter (ending Jan. 1, 1873); and it is absolutely unprecedented that *not a single death from smallpox* has taken place in any of the hospitals. 'The eruptive fevers in general, and variola in particular, have, then, lost temporarily almost all their power of contagious diffusion—they have ceased to be epidemic, in the medical sense of the word; and we seize in the very fact the flagrant difference which separates an epidemic and a sporadic disease, a difference exhibited in the fecundity of the one and the sterility of the other. All epidemic diseases transmissible from a sick to a healthy man are subjected to this common law of the variability of contagious faculty—a variability that is exercised within extremely wide limits, sometimes undergoing slight oscillations, and at others sudden deviations, which put an end to the epidemic period, or produce epidemic explosions, properly so called. Of the cause of such variations we are completely ignorant.' Smallpox, for example, is not only rare, but it does not create around it now that contagious atmosphere observed during epidemics, although all the known conditions are just what they always have been. Never have fewer precautions been taken, and never have there been less vaccinations and re-vaccinations; and for a long time there has been a constant current of immigration. It is not that the disease is less severe in its nature, for although during 1872 the number of cases has been extraordinarily small, the relative mortality has exceeded that of the mean of the most epidemic years. It is an error which is often taught, that sporadic diseases are always less fatal than epidemic; but on exact inquiry we find that sporadic cases of cholera or typhoid fever are just as fatal as those of an epidemic form. With respect to smallpox, also, the mean mortality for eight consecutive years (1862–69) was 12·28 per cent., while in the two years in which it was epidemic (1868–69) this was but 11·77 per cent. For a long time scarlatina has not prevailed epidemically in Paris, but its malignant character has not disappeared."

The Use of Lymph taken from Re-vaccinations (*Berliner Klin. Wochenschrift*, Aug. 26, 1872).—Dr. Dawosky, of Celle, denounces the practice (which is understood to prevail to a limited extent in this city) of vaccinating children with lymph taken from the vesicles of re-vaccinated persons. His chief objection is that experience has not yet shown how great protection is afforded from this kind of lymph. He cites, in conclusion, an official notification issued at Küneburg, in the year 1843, warning public vaccinators against the use of lymph derived from this source.

Medical Miscellany.

OUR readers are reminded of Dr. Séquard's lecture, at the Natural History Rooms, on Saturday evening.

DR. BILLROTH has received the decoration of the second class of the Russian order of St. Anne.

DR. ROKITANSKY has been elected a member of the Anatomical Society of Paris.

THE Minister of the Interior of France has placed at the disposal of the French Academy, the sum of 2000 fr. to reward the best works relating to the hygiene of infancy.

THE cholera is dying out in Russia. According to the official statements of the week ending February 21, there were only thirty-five cholera patients left at Moscow and in the Governments of Grodno, Piotrkow and Plock.

THE Emperor of Russia has authorized, by public decree, the formation of committees to aid in raising a worthy memorial to the memory of Albert v. Graefe in Berlin.

DR. JAMES YOUNG, at a recent meeting of the Obstetrical Society of Edinburgh, reported the strange case of a lady who had had four children, but who never had any milk in her left breast, although to all appearances it was perfectly normal and healthy. She has three sisters who all have had families—one eight, one six, and the third four children; but none of them have had any milk in their left breast.

TRANSFUSION OF MILK IN CHOLERA.—Mr. Edward M. Hodder, of Toronto, gives the details of three instances in which milk was transfused into the veins of patients in the latter stages of Asiatic cholera. The first case was that of a man who was in a state of collapse, being cold, pulseless, blue and shrivelled. The effect is described as magical. The man rallied almost immediately, and made a rapid recovery. The second case was that of a woman, an habitual drunkard, and the history of the transfusion and its effects are almost identical with that of the previous patient. The third case is very imperfectly described, but we are led to conclude that the patient, a man who was admitted suffering from the same disease, and almost *in articulo mortis*, rallied for a time after the transfusion, but the operation not having been seasonably repeated, the man succumbed.—*The Practitioner*, February, 1873.

A NEW ANODYNE COLLOID.—Dr. Lackerstein proposes the following composition in the case of neuralgic and other localized pains:—

℞. Amyl hydrid., ʒi.;
Collodion (B.P.), ʒi.;
Aconitiæ, gr. i.;
Veratriæ, g. vi. M.

This forms a colloid, which should be brushed over the painful part five or six times, forming successive films. If the pain be not at once relieved, the absorption of the alkaloids may be favored by covering the colloid film with a layer of spongio-piline.—*The Practitioner*, January, 1873.

THE USE OF DRY-POWDERED BLOOD.—Warm blood, taken from the calf or ox, has long been employed in certain parts of Europe, being administered in the early stages of tuberculosis, in chlorosis, and in general debility with anæmia. To overcome the very great repugnance so often manifested for this drink, Dr. De Pascale, of Nice, is in the habit of giving it in the form of powder, in which condition it is nearly tasteless. The blood is dried by means of the water-bath, powdered, and grated through a sieve. The dose is about thirty grains.

ABUSE OF THE PEABODY TRUST.—"Experience has amply proved that the Peabody Trust has been much abused. We have made some special inquiries with respect to the social position of the recipients of this so-called charity. We find that, notwithstanding the rule which is supposed to exclude all in the receipt of wages exceeding a pound a week, a large proportion of the tenements are let to people of a better class. It is no uncommon thing to find a piano in their rooms. There is also the incontrovertible fact that private companies have provided equally good accommodations for the public on the same terms."—*Med. Times and Gazette*, March 15, 1873.

WE copied in our last an extract from the *British Medical Journal* on obscene literature, and are glad to see that a right step in this direction has also been taken by Congress. The following extract is taken from the editorial columns of the *Philadelphia Medical Times*: Every good citizen of the United States, and in fact every friend of purity and good morals everywhere, will hear with pleasure that a bill "to prevent the mailing of obscene books, papers, articles and advertisements,"—we quote from one of the daily papers—has passed both Houses of Congress and received the President's signature. Faithfully executed, such a law will be an incalculable benefit to the nation.

AGE AND INTELLECT.—That extreme longevity does not abridge intellectual activity, is well evidenced by the following table of the dates of birth and respective ages of the highest talent of the French Academy:—

MM.	Guizot	1787—85 years.
	Thiers	1797—75 "
	Remusat	1797—75 "
	Saint-Marc Girardin	1801—71 "
	Victor Hugo	1802—70 "
	Dupanloup	1802—70 "
	Legouvé	1807—65 "

NOTES AND QUERIES.

PROBLEM FOR HOMŒOPATHS.—If one globule of pulsatilla (thirtieth potency) will turn a malplaced *fœtus in utero*, how many such globules will be required to turn our efficient Surgeon-General out of office? PSORA.

To C.O.D., M.D., HULL.—You have been misinformed. We should not advise the internal administration of *curacoa* in the case of varicose ulcers.

MORTALITY IN MASSACHUSETTS.—*Deaths in thirteen Cities and Towns for the week ending March* 22, 1873.

Boston, 178—Worcester, 19—Lowell, 15—Milford, 2—Chelsea, 13—Salem, 10—Lawrence, 12—Lynn, 19—Fitchburg, 6—Newburyport, 5—Somerville, 7—Fall River, 27—Haverhill, 5. Total, 318.

Prevalent Diseases.—Consumption, 53—pneumonia, 42—scarlet fever, 19.

Seven deaths from smallpox are reported:—Six in Boston, and one in Chelsea. Of the deaths from scarlet fever, sixteen were in Boston.

GEORGE DERBY, M.D.,
Secretary of the State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, March 29th, 146. Males, 79; females, 67. Accident, 2—abscess, 1—apoplexy, 2—anæmia, 1—asthma, 1—inflammation of the bowels, 2—disease of the bladder, 1—bronchitis, 3—inflammation of the brain, 2—disease of the brain, 5—cyanosis, 2—cancer, 2—cholera infantum, 1—consumption, 35—convulsions, 5—cerebro-spinal meningitis, 16—debility, 4—dropsy, 1—dropsyof the brain, 2—diphtheria, 2—eczema, 1—erysipelas, 1—scarlet fever, 2—typhoid fever, 2—gastritis, 1—disease of the heart, 4—disease of the hip, 1—homicide, 1—intemperance, 3—disease of the kidneys, 3—congestion of the lungs, 3—inflammation of the lungs, 7—marasmus, 5—old age, 4—paralysis, 2—pleurisy, 1—pyæmia, 1—puerperal disease, 3—smallpox, 4—synovitis, 1—teething, 1—whooping cough, 1—unknown, 3.

Under 5 years of age, 44—between 5 and 20 years, 23—between 20 and 40 years, 44—between 40 and 60 years, 23—over 60 years, 12. Born in the United States, 101—Ireland, 31—other places, 14.